

Via Electronic and Certified Mail

December 18, 2012

Mr. Ruben Moya, Superfund Remedial Project Manager
Superfund AR/LA Enforcement Section (6SF-RA)
U.S. Environmental Protection Agency
1445 Ross Avenue
Dallas, Texas 75202

Subject: Response to ADEQ Comments Dated November 6, 2012
Re: Monthly Progress Report – September 2012
Arkwood, Inc. Site, Omaha, Arkansas

Dear Mr. Moya:

The purpose of this letter is to offer clarifications and responses to the comments of ADEQ addressed to you dated November 6, 2012 regarding the Monthly Progress Report – September 2012 for the Arkwood, Inc. Site. The ADEQ's comments are presented below in italics followed by our responses.

- 1. According to the email from Jean Mescher, McKesson, dated October 3, 2012 provided with the subject report, samples cannot be obtained 20 feet downstream from the weir as requested by ADEQ during periods of low flow since the effluent "sinks into the subsurface before reaching the culvert". This statement describes the effluent returning to a subsurface status and therefore returning to the state of groundwater. For this reason the Maximum Contaminant Level (MCL) for pentachlorophenol (PCP) of 1.0 µg/l should be used in lieu of the aquatic toxicity standard of 15.57 µg/l which is currently used.*

My responses were made based on my familiarity of the Site: 1) For clarification, the reason a sample cannot be collected 20 feet downstream from the weir is that there is only about 15 feet between the effluent discharge point and the entrance to the culvert. 2) During periods of moderate to high flow, a sample can be collected at the entrance to the culvert (about 15 feet from the discharge point). However, during periods of low flow, the effluent may not flow all the way to the culvert at a depth that allows for sampling. Perhaps I oversimplified the conditions of what happens to the water in the discharge ditch. 3) When earlier I said that it "sinks into the subsurface before reaching the culvert", I did not mean to infer that it became groundwater. The weir is approximately six feet from the fence line. At the point the effluent stream leaves the fenced area (goes offsite), the flow is aboveground and visible regardless of the spring flow rate. Offsite, under low flow conditions, the water in the ditch downgradient from the effluent discharge point spreads out within the gravel-lined ditch and is not deep enough to accommodate the 1-liter sampling container used to collect the water sample. At low flow rates, the discharge enters the rock-lined ditch and partially evaporates. That which remains disperses around the voids be-



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tween rocks and may be partially absorbed into the surface soil. A small depression was constructed at about 12-feet from the effluent discharge point to accommodate collection of the sample (it is not recommended to make a depression closer to the culvert due to concerns for undermining of the culvert). When we do not see flow reaching the culvert, it may be spreading and flowing in the gravel beneath the culvert. It is still considered to be a surface water discharge since the source of the water (New Cricket Spring) is surface water and the water is discharged at the surface and flows for some distance before it spreads between the rocks in the ditch lining where it may be partially absorbed into the surface materials. In accordance with Arkansas Regulation 2, "surface water" is defined as, "That water contained on the exterior or upper portion of the earth's surface as opposed to groundwater." Using this definition, the effluent discharge is appropriately categorized as surface water.

2. *Due to the concern discussed in Comment 1 above, a review was performed of past correspondence for clarification concerning applicable risk levels. During the review, it was noticed that the ADEQ water quality standard of 15.57 µg/l is apparently being used as the screening level for PCP in lieu of the MCL of 1.0 µg/l. However, this standard pertains to aquatic toxicity only and does not address potential human health concerns. Even as it is apparently assumed that the stream is not a source for potable water, the MCL of 1.0 µg/l should be the applicable screening level for the following reasons:*

Much of the groundwater which rises from the spring and becomes surface water returns to groundwater and appears to migrate offsite, as groundwater.

According to past correspondence, it appears the consensus of the EPA, ADEQ and McKesson, that some groundwater is circumventing the spring and migrating beyond the spring as groundwater.

Please see the response under Comment 1 above. There is constant movement between subsurface and surface water bodies as streams and lakes may be gaining or losing hydraulically at different portions of the water body, during various precipitation events and during different times of the year. However, this ongoing interaction between surface and groundwater does not mean that the defined distinctions between surface water and groundwater are eliminated. The dye tracing study conducted for the site demonstrated that the groundwater migrating offsite discharges detectable levels of pentachlorophenol at only one location: New Cricket Spring, which is treated by McKesson.

3. *Since the MCL for PCP is applicable for the potential risk evaluation, the minimum reporting limit for pentachlorophenol should be less than 1.0 µg/l and not the current reporting limit of 5.0 µg/l.*

Please see responses above. We can request that our laboratory, Arkansas Analytical, Inc., report "J" values between 1 µg/l and 5 µg/l with the recognition that a J value is an estimated concentration. In essence, there is not a drinking water EPA Method for PCP. The EPA Method 8270D from SW-846 lists the reporting limit for pentachlorophenol in groundwater as 50 µg/l (ppb). The method detection level (MDL) for Arkansas Analytical for PCP is 1 ppb. There is an

uncertainty as to quantitation for data falling below the lowest standard in the calibration curve. Arkansas Analytical's NELAC accreditation requires that if data lower than their lowest standard is reported, it must be qualified as estimated as a "J" value. The laboratory president states that a value between 1 ppb and 5 ppb will be an estimated value with a range of about -50% to +100% of the actual value - meaning an estimated value of 1 ppb is really somewhere in the range of 0.5 ppb to 2 ppb.

Jeff Reuhr of the ADEQ laboratory provided the following explanation in an email to Diana Kilburn of ADEQ on November 29, 2012:

"For Pentachlorophenol our low standard on the five point curve is 500ug/L. This we say is the lowest concentration we can see or report for that parameter. The next step is that we extract 500mL of sample which we concentrate down to 1mL. This is a 500 to 1 concentration so 500ug/L divided by 500 equals a 1ug/L MDL or Reporting limit in this case. On some of the Old Midland samples you will notice we only extracted 50mL or 5mL, so that was why the MDL and Reporting limits changed. For example 50mL extracted then conc to 1mL would result in a MDL of 500ug/L divided by 50 equals 10ug/L MDL or Reporting limit. I realize this is a flaw in our reports, because it is confusing for those reviewing them, but our LIMS requires us to input everything we do and then it does the math. The ADEQ report doesn't have a qualifier because the result is not estimated. It is based on the low standard so we have 100 % confidence in the results.

We are able to see that low because you asked us to, and we were able to push/optimize the method to see those levels. Most labs can't or won't push their instruments down to those levels. The main reasons are; their instruments are older and can't, these low levels are very difficult to maintain thus needing almost constant recalibrations, and you end up needing to make more dilutions which screws with your QC.

A 5ppb reporting limit for pentachlorophenol isn't that unusual for most Labs to report. They may be able to say they see 1ppb, but they are going to flag the result as estimated."

We have requested that Arkansas Analytical report PCP values between 1-5 µg/l as a "J" value unless where noted. If further refinements in the analytical process can be made based on additional discussion between Arkansas Analytical and the ADEQ laboratory, we will inform the agencies at that time.

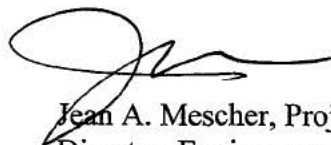
4. *It is noted the increase in concentration to 73.2 ppb PCP at the mouth of New Cricket Spring occurred after onsite injection of clean water ceased. The flow from the spring was 0.4 gpm at the time of sampling. It is recommended that monthly sampling and testing at the site continue as scheduled.*

Monthly sampling and testing at New Cricket Spring and the treatment effluent point will continue as requested.

I certify that the information contained in or accompanying this submission is true, accurate, and complete to the best of my knowledge, information and belief, and that I, as project coordinator, have made reasonable inquiry into its veracity.

If you have any questions regarding this letter, please do not hesitate to contact me at (608) 848-4134.

Sincerely,



Jean A. Mescher, Project Coordinator
Director, Environmental Services

Enclosure

Copy:

- Mark Moix, ADEQ*
- EPA Assistant Regional Counsel (6C-WA)* (w/o enclosure)
- Chief, Superfund Enforcement Branch (6H-E)* (w/o enclosure)

* CERTIFIED MAIL



ARKANSAS
Department of Environmental Quality

CERTIFIED MAIL No. 91 7199 9991 7030 4901 5218

Return Receipt Requested

November 6, 2012

U.S. EPA Region 6
Attn: Mr. Ruben Moya
Mail Code: 6SF
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

RE: Monthly Progress Report–September 2012
Arkwood, Inc. Site, Omaha, Arkansas

Dear Mr. Moya:

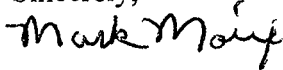
The Arkansas Department of Environmental Quality - Hazardous Waste Division (ADEQ) has received the Monthly Progress Report–September 2012 for Arkwood, Inc. Site, Omaha, Arkansas dated October 10, 2012. After reviewing the report ADEQ has the following comments:

1. According to the email from Jean Mescher, McKesson, dated October 3, 2012 provided with the subject report, samples cannot be obtained 20 feet downstream from the weir as requested by ADEQ during periods of low flow since the effluent “sinks into the subsurface before reaching the culvert”. This statement describes the effluent returning to a subsurface status and therefore returning to the state of groundwater. For this reason the Maximum Contaminant Level (MCL) for pentachlorophenol (PCP) of 1.0 ug/l should be used in lieu of the aquatic toxicity standard of 15.57 ug/l which is currently used.
2. Due to the concern discussed in Comment 1 above, a review was performed of past correspondence for clarification concerning applicable risk levels. During the review, it was noticed that the ADEQ water quality standard of 15.57 ug/l is apparently being used as the screening level for PCP in lieu of the MCL of 1.0 ug/l. However, this standard pertains to aquatic toxicity only and does not address potential human health concerns. Even as it is apparently assumed that the stream is not a source for potable water, the MCL of 1.0 ug/l should be the applicable screening level for the following reasons:
 - Much of the groundwater which rises from the spring and becomes surface water returns to groundwater and appears to migrate offsite, as groundwater.
 - According to past correspondence, it appears the consensus of the EPA, ADEQ and McKesson, that some groundwater is circumventing the spring and migrating beyond the spring as groundwater.

3. Since the MCL for PCP is applicable for potential risk evaluation, the minimum reporting limit for pentachlorophenol should be less than 1.0 ug/l and not the current reporting limit of 5.0 ug/l.
4. It is noted the increase in concentration to 73.2 ppb PCP at the mouth of New Cricket Spring occurred after onsite injection of clean water ceased. The flow from the spring was 0.4 gpm at the time of sampling. It is recommended that monthly sampling and testing at the site continue as scheduled.

To address concerns discussed above, a minimum PCP reporting limit equal to or less than 1.0 ug/l is recommended for a mutually agreed upon limited period of time by the parties involved or may be used seasonally during low-flow conditions. If you have any comments or questions, please contact me at 501-682-0852 or via e-mail moix@adeq.state.ar.us.

Sincerely,



Mark Moix
Engineer, PE
Technical Branch
Hazardous Waste Division

cc: Jean Mescher, McKesson Corporation